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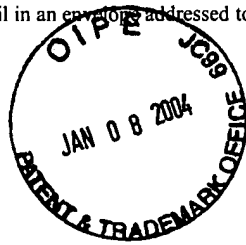
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

On January 6, 2003

TOWNSEND and TOWNSEND and CREW LLP

By: 

Nicole M. Wartell



PATENT
Attorney Docket No.: 015389-002921US
Client Reference No.: 018/180C

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Thomas Cech et al.

Application No.: 09/766,253

Filed: January 19, 2001

For: NOVEL TELOMERASE

Examiner: Carla J. Myers

Art Unit: 1634

INFORMATION DISCLOSURE
STATEMENT UNDER 37 CFR §1.97 and
§1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. In accordance with 37 CFR §1.98(d), copies of some of the references listed on PTO/SB/08A and PTO/SB/08B can be found in U.S. Application No. 08/846,017, filed 04/25/1997 (Attorney Docket No. 015389-002920US). All other references are enclosed herewith.

Applicants also wish to make the Examiner aware of the following co-pending patent applications:

1. U.S. Patent App. No. 09/432,503, filed 11-02-1999, Applicant Cech et al., Attorney Docket No. 015389-0002611US;
2. U.S. Patent App. No. 09/721,477, filed 11-22-2000, Applicant Cech et al., Attorney Docket No. 015389-002914US;

3. U.S. Patent App. No. 09/721,506, filed 11-22-2000, Applicant Cech et al., Attorney Docket No. 015389-002916US; and
4. U.S. Patent App. No. 09/974,584, filed 11-19-1997, Applicant Cech et al., Attorney Docket No. 015389-002950US.

To comply with 37 CFR §1.98(a)(2)(iii), the specifications, drawings and currently pending claims for U.S. Application No. 09/432,503 (Attorney Docket No. 015389-002611US) and U.S. Application No. 09/974,584 (Attorney Docket No. 015389-002950) are enclosed. The currently pending claims from U.S. Application Nos. 09/721,477 (Attorney Docket No. 015389-002614US) and 09/721,506 (Attorney Docket No. 015389-002616US) are also enclosed; copies of the specification and drawings for these latter two applications are not enclosed because these applications are the same as US Application No. 09/432,503.

It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

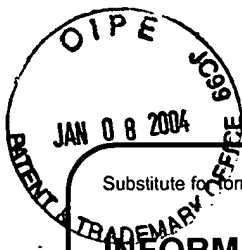
As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Scott L. Ausenhus
Reg. No. 42,271



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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet **1** of **12****Complete if Known**

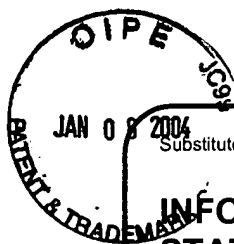
Application Number	09/766,253
Filing Date	January 19, 2001
First Named Inventor	Thomas Cech
Art Unit	1634
Examiner Name	Carla J. Myers
Attorney Docket Number	015389-002921US

U.S. PATENT DOCUMENTS+

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
	A1	US-3,817,837	06-18-1974	Tanenholtz et al.	
	A2	US-3,850,752	11-26-1974	Schuurs et al.	
	A3	US-3,939,350	02-17-1976	Kronick et al.	
	A4	US-3,996,345	12-01-1976	Ullman et al.	
	A5	US-4,275,149	06-23-1981	Litman et al.	
	A6	US-4,277,437	07-07-1981	Maggio	
	A7	US-4,366,241	12-28-1982	Tom et al.	
	A8	US-4,683,195	07-28-1987	Mullis et al.	
	A9	US-4,683,202	07-28-1987	Mullis	
	A10	US-4,816,567	03-28-1989	Cabilly et al.	
	A11	US-4,965,188	10-23-1990	Mullis et al.	
	A12	US-5,489,508	02-06-1996	West et al.	
	A13	US-5,583,016	12-10-1996	Villeponteau et al.	
	A14	US-5,597,697	01-28-1997	Diamond	
	A15	US-5,747,317	05-05-1998	Cao	
	A16	US-5,770,422	06-23-1998	Collins	
	A17	US-5,917,025	06-29-1999	Collins	
	A18	US-5,919,656	07-06-1999	Harrington, et al.	
	A19	US-6,093,809	07-25-2000	Cech et al.	
	A20	US-6,166,178	12-26-2000	Cech et al.	
	A21	US-6,258,535 B1	07-10-2001	Villeponteau et al.	
	A22	US-6,261,556 B1	07-17-2001	Weinrich et al.	
	A23	US-6,261,836 B1	07-17-2001	Cech et al.	
	A24	US-6,309,867 B1	10-30-2001	Cech et al.	
	A25	US-6,337,200 B1	01-08-2002	Morin	
	A26	US-6,440,735 B1	08-27-2002	Gaeta	
	A27	US-6,444,650 B1	09-03-2003	Cech et al.	
	A28	US-6,475,789 B1	11-05-2002	Cech et al.	
	A29	US-6,517,834 B1	02-11-2003	Weinrich et al.	
	A30	US-6,608,188 B1	08-19-2003	Tsuchiya et al.	
	A31	US-6,610,839 B1	08-26-2003	Morin et al.	
	A32	US-6,617,110 B1	09-09-2003	Cech et al.	
	A33	US-6,627,619 B2	09-30-2003	Cech et al.	
	A34	US 2002-0164786 A1	11-07-2002	Cech et al.	
	A35	US 2003-0009019 A1	01-09-2003	Cech et al.	
	A36	US 2003-0032075 A1	02-13-2003	Cech et al.	
	A37	US 2003-0044953 A1	03-06-2003	Cech et al.	
	A38	US 2003-0059787 A1	03-27-2003	Cech et al.	
	A39	US 2003-0096344 A1	05-22-2003	Cech et al.	
	A40	US 2003-0100093 A1	05-29-2003	Cech et al.	
	A41	US Application No. 09/432,503		Cech et al.	

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SignatureDate
Considered

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet **2** of **12****Complete if Known**

Application Number	09/766,253
Filing Date	January 19, 2001
First Named Inventor	Thomas Cech
Art Unit	1634
Examiner Name	Carla J. Myers
Attorney Docket Number	015389-002921US

U.S. PATENT DOCUMENTS+

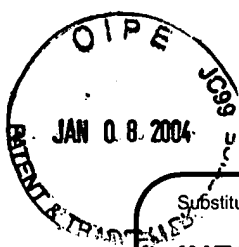
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		Number	Kind Code ² (if known)			
	A42	U.S. Application No. 09/721,477			Cech et al.	
	A43	U.S. Application No. 09/721,506			Cech et al.	
	A44	U.S. Application No. 90/974,584			Cech et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 3 of 12

Complete if Known

Application Number	09/766,253
Filing Date	January 19, 2001
First Named Inventor	Thomas Cech
Art Unit	1634
Examiner Name	Carla J. Myers
Attorney Docket Number	015389-002921US

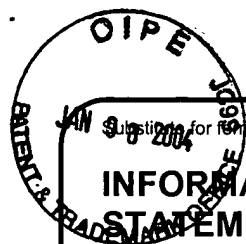
NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
L	C1	ADAMSON, D. et al. "Significant Telomere Shortening in Childhood Leukemia", Cancer Genet. Cytogenet, 1992; pp. 204-206, Vol. 61	
✓	C2	ANDERSON and YOUNG, "Quantitative Filter Hybridization" in Nucleic Acid Hybridization, 1985, pp. 73-111	
✓	C3	AUSUBEL et al., Current Protocols in Molecular Biology, 1989, John Wiley & Sons, New York NY	
✓	C4	AUTEXIER et al., "Reconstitution of human telomerase activity and identification of a minimal functional region of the human telomerase RNA," EMBO J, 1996, pp. 5928-5935, Vol. 15	
✓	C5	AUTEXIER, CHANTAL, et al., "Telomerase and cancer: revisiting the telomere hypothesis; Trends in Biochemical Sciences, 1996, pp. 387-391, Vol. 10, No. 21.	
✓	C6	AUXEXIER and GREIDER, "Functional reconstitution of wild-type and mutant Tetrahymena telomerase," Genes Develop., 1994, pp. 563, Vol. 8	
✓	C7	AVILION, A., "Characterization and expression of human telomerase," Dissertation Abstracts International", 1996, pp. 5930-B, Vol. 56, No. 11	
✓	C8	BARINGA, MARCIA, "The Telomerase Picture Fills In", Science, April 25, 1997; pp. 528-529, Vol. 276	
✓	C9	BERGER and KIMMEL (Eds), "Guide to Molecular Cloning Techniques", Methods in Enzymology, 1987, vol. 152, Academic Press, San Diego CA	
✓	C10	BIESSMAN et al., "Addition of Telomere-Associated HeT DNA Sequences "Heals" Broken Chromosome Ends in Drosophila," Cell, 1990, pp. 663, Vol. 61	
✓	C11	BITTER, G. et al., "Expression and secretion vectors for yeast," Methods in Enzymology, 1987, pp. 516-544, Vol. 153, Academic Press, Inc.	
✓	C12	BLACKBURN and CHIOU, "Non-nucleosomal packaging of a tandemly repeated DNA sequence at termini of extrachromosomal DNA coding for rRNA in Tetrahymena," Proc. Natl. Acad. Sci., 1981, pp. 2263, Vol. 78	
✓	C13	BLACKBURN and GALL, "A tandemly repeated sequence at the termini of the extrachromosomal ribosomal RNA genes in Tetrahymena," J. Mol. Biol., 1978, pp. 33, Vol. 120	
✓	C14	BLACKBURN, "Telomerases," Ann. Rev. Biochem., 1992, pp. 113, Vol. 61	
✓	C15	BRADFORD, "A Rapid and Sensitive Method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding," Anal. Biochem., 1976. pp. 248, Vol. 72	
✓	C16	BRAUNSTEIN et al., "Transcriptional silencing in yeast is associated with reduced nucleosome acetylation," Genes Develop., 1993, pp. 592, Vol. 7	
i	C17	CALVIO et al., "Identification of hnRNP P2 as TLS/FUS using electrospray mass spectrometry," RNA, 1995, pp. 724, Vol. 1	

Examiner Signature	Date Considered
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 4 of 12

Complete if Known

Application Number	09/766,253
Filing Date	January 19, 2001
First Named Inventor	Thomas Cech
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Examiner Name	Carla J. Myers
Attorney Docket Number	015389-002921US

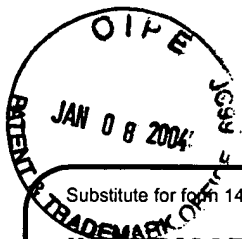
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✓	C18	CARUTHERS et al., "New chemical methods for synthesizing polynucleotides," Nucleic Acids Res. Symp. Ser., 1980, pp. 215-223	
✓	C19	CHAN and TYE, "Organization of DNA sequences and replication origins at yeast telomeres," Cell, 1983, p. 563, Vol. 33	
✓	C20	CHIU, et al. "Replicative senescence and cell immortality: the role of telomeres and telomerase", Proc. Soc. Exp. Bio. Med., 1997, p. 99, Vol. 214.	
✓	C21	CHONG, L. et al. "A Human Telomeric Protein", Science, Dec. 1995, pp. 1663-1667, Vol. 270.	
✓	C22	COLBERE-GARAPIN et al., "A new dominant hybrid selective marker for higher eukaryotic cells," J. Mol. Biol., July 1981, pp. 1-14, Vol. 150, No. 1	
✓	C23	COLE et al., "The EBV-hybridoma technique and its application to human lung cancer," Monoclonal Antibodies and Cancer Therapy, 1985, pp. 77-96, Alan R. Liss Inc., New York NY.	
✓	C24	COLEMAN HEALY, K. "Telomere dynamics and telomerase activation in tumor progression: prospects for prognosis and therapy" Oncol. Res., 1995, pp. 121-130, Vol. 7	
✓	C25	COLLINS et al., "Purification of Tetrahymena telomerase and cloning of genes encoding the two protein components of the enzyme," Cell, 1995, pp. 677-686, Vol. 81	
✓	C26	COLLINS, KATHLEEN, "Structure and function of telomerase", Current Opinion in Cell Biology, 1996, pp. 374-380, Vol. 8	
✓	C27	CONRAD et al. "RAP1 protein interacts with yeast telomers in vivo: Overproduction alters telomere structure and decreases chromosome stability," Cell, 1990, pp. 739, Vol. 63.	
✓	C28	COOMBS, Dictionary of Biotechnology, 1994, Stockton Press, New York NY	
✓	C29	COTE et al., "Generation of human monoclonal antibodies reactive with cellular antigens," Proc. Natl. Acad. Sci., 1983, pp. 2026, Vol. 80.	
✓	C30	COUNTER et al., "The catalytic subunit of yeast telomerase," Proc. Natl. Acad. Sci. U.S.A., 1997, 9202-9207, Vol. 94.	
✓	C31	COUNTER et al.; "Telomerase Activity in Normal Leukocytes and in Hematological Malignancies"; Blood; May 1, 1995; pp. 2315-2320, Vol. 85	
✓	C32	COUNTER et al.; "Telomere shortening associated with chromosome instability is arrested in immortal cells which express telomerase activity" The EMBO Journal; 1992; Vol. 11; No. 5, pp. 1921-1929	
✓	C33	COUNTER et al; "Telomerase activity in human ovarian carcinoma"; Proc. Natl. Acad. Sci USA; April 1994; Vol. 91; pp. 2900-2904	
✓	C34	CREIGHTON, T. Proteins, Structures and Molecular Principles, 1983, WH Freeman and Co, New York, NY	

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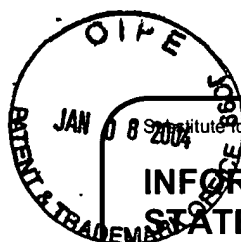
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		Art Unit	1634
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✓	C35	DE LANGE, et al.; Structure and Variability of Human Chromosome Ends; <i>Molecular and Cellular Biology</i> ; February 1990; Vol. 10, No. 2; pp. 518-527	
✓	C36	DIEFFENBACH and DVEKSLER, <i>PCR Primer, a Laboratory Manual</i> , 1995, Cold Spring Harbor Press, Plainview NY	
✓	C37	DUPLAA et al., "Quantitative analysis of polymerase chain reaction products using biotinylated dUTP incorporation," <i>Anal. Biochem.</i> , 1993, p. 229, Vol. 212	
✓	C38	FANG, G. et al., "Oxytricha telomere-binding protein: separable DNA-binding and dimerization domains of the α -subunit," <i>Genes and Development</i> , 1993, pp.870-882, Vol. 7	
✓	C39	FENG et al., "The RNA Component of Human Telomerase," <i>Science</i> , 1995, pp. 1236-1241, Vol. 269	
✓	C40	FLAVELL, R. & MATHIAS, R. "Prospects for transforming monocot crop plants", <i>Nature</i> , 12 Jan. 1984, pp. 108-109, Vol. 307.	
✓	C41	FRESHNEY, <i>Culture of Animal Cells, A Manual Basic Technique</i> , 1983, Alan R. Liss, Inc. New York.	
✓	C42	Genbank Accession No. A46242 (NATARAJAN et al.) 1992	
✓	C43	Genbank Accession No. AA299878 (ADAMS et al.) April 18, 1997	
✓	C44	Genbank Accession No. AA311750 (ADAMS et al.) April 19, 1997	
✓	C45	Genbank Accession No. L38903 (ZAHNER et al.) July 26, 1996	
✓	C46	Genbank Accession No. Q06163 (DU, Z.) 1995	
✓	C47	Genbank Accession No. S39696 (GLASER et al.) 1993	
✓	C48	Genbank Accession No. S53396, (DU, Z.) 1995	
✓	C49	GenBank Accession No. U95964, (Linger et al.) May 5, 1997	
✓	C50	GenBank, EST Database, Accession No. W70315, (HILLIER, et al.) October 17, 1996	
✓	C51	Genome Issue of <i>Science</i> , 1994, pp. 1981-2144, Vol.265.	

Examiner Signature		Date Considered	
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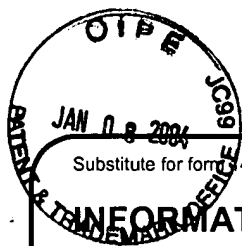
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✓	C52	GILLEY, D. et al., "Altering specific telomerase RNA template residues affects active site function," Genes Develop., 1995, pp. 2214-2226, Vol. 9, Cold Spring Harbor Laboratory Press.	
✓	C53	GLASER, P. et al. "Bacillus subtilis genome project: cloning and sequencing of the 97 kb region from 325" to 333"" Molecular Microbiology, 1993, pp. 371-384, Vol. 10, No. 2.	
✓	C54	GOODMAN, R. et al. "Gene Transfer in Crop Improvement", Science, 3 April 1987, pp. 48-54, Vol. 236.	
✓	C55	GOTTSCHLING, D. and CECHE, T. "Chromatin Structure of the Molecular Ends of Oxytricha Mononuclear DNA: Phased Nucleosomes and a Telomeric Complex," Cell, Sept. 1984, pp. 501-510, Vol. 38	
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Sheet 7 of 12

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Art Unit	1634
Examiner Name	Carla J. Myers
Attorney Docket Number	015389-002921US

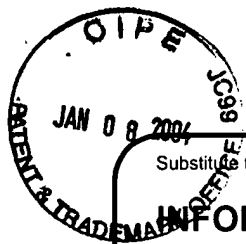
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✓	C84	KIPLING and COOKE, "Hypervariable ultra-long telomeres in mice," <i>Nature</i> , 1990, p. 400, Vol. 347	
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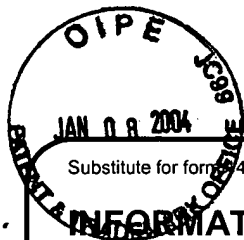
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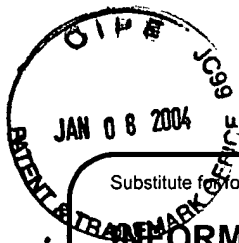
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✓	C124	RHODES, C. et al. "Transformation of maize by electroporation of embryos," Meth. Mol. Biol., 1995, pp. 121-131, Vol. 55.	
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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.